

feet at Lecropt Church, about 900 feet at Airthrey Mineral Well, and nearly half a mile at Airthrey Castle. Several openings have been cut in it by streams or other agents. The preservation of this portion of the ancient sea-bottom may be attributed to the high trap hill of Abbey Crag at its east end, which had protected it from the action of the tide when the sea covered the Carse. A remnant of another terrace at a corresponding level is found at the opposite side of the Carse, two miles southward, near Whitehouse Farm, and small portions of a terrace fifty feet lower are found at Stirling Castle and near Causeyhead.

January 6, 1845.—1. "Further Remarks on the Electrical Organs of the Rays." By Dr. Stark.

2. "Observations on the same subject." By John Goodsir, Esq.

Mr. Goodsir stated that he had examined the part described by Dr. Stark. It was, as he had suspected, the posterior part of the middle mass of the caudal muscles. The texture of this part differs remarkably from the muscular; it consists of numerous compartments formed by the aponeurotic septa of the muscle. Each compartment contains next its walls a rich festooned arrangement of nervous loops, these loops being generally united three by three; the sling of each loop is enlarged and contains one or more nucleated corpuscles, the limbs passing back into nervous tubes of the usual size. With these nervous loops, blood-vessel loops similarly enlarged are intermixed. The centre of each compartment contains a gelatinous mass applied externally to the nervous loops, and in its interior containing a vacant space. The gelatinous mass consists of areolæ formed by bars passing in all directions: these bars are thickest where they meet one another: they consist of a series of nucleated cells, which are plump and gelatinous in appearance, and much larger at the points of junction of the bars. These larger cells Mr. Goodsir considers as the germinal spots of the texture. The bars, and consequently the whole arrangement of the gelatinous mass, appear to be covered by a membrane presenting a most remarkable appearance,—a series of grooves or lines, the general direction of which is parallel to the bars, but generally slightly inclined. These grooves resemble the grooves or lines of mother-of-pearl, or the groovings on the dermal plates of some of the older fossil fishes.

Mr. Goodsir concluded by stating that this organ had the general appearance of an electrical organ, but that the evidence deduced of its electrical properties appeared to him to be insufficient.

#### ZOOLOGICAL SOCIETY.

June 11, 1844.—George Gulliver, Esq., in the Chair.

"On the Blood-corpuscles of the Two-toed Sloth, *Bradypus didactylus*, Linn.," by George Gulliver, F.R.S.

From an observation which I have lately made, it results that the Two-toed Sloth is one of the very few animals that has blood-discs

considerably larger than those of Man; its average size in vulgar fractions of an English inch is 1-2865.

M. Mandl\* discovered that the blood-corpuscles of the Elephant are the largest at present known belonging to the Mammalia, and I subsequently found that those of the Capybara were, as far as we then knew, next in size, as noticed in my Appendix to Gerber's Anatomy, pages 5, 8, and 50.

But it now appears that the blood-corpuscles of the Sloth are larger than those of the Capybara, and, among mammiferous animals, second only in magnitude to the corpuscles of the Elephant.

For the sake of comparison, some of my measurements of the average size of the largest blood-discs of Mammalia are here set down in the order of the magnitude of the discs, and in vulgar fractions of an English inch.

<i>Elephas Indicus</i> , Cuv. . . . .	1-2745
<i>Bradypus didactylus</i> , Linn. . . . .	1-2865
<i>Balena Boops</i> , Auct. . . . .	1-3099
<i>Hydrochaerus Capybara</i> , Erxl. . . . .	1-3216
<i>Phoca vitulina</i> , Linn. . . . .	1-3281
<i>Dasypus villosus</i> , Desm. . . . .	1-3315
<i>Myopotamus Coypus</i> , Desm. . . . .	1-3355
<i>Pithecus Satyrus</i> , Geoff. . . . .	1-3383
<i>Dasypus sex-cinctus</i> , Auct. . . . .	1-3457

Numerous other measurements are appended to the English version of Gerber's Anatomy.

It has been said that the blood-corpuscles are larger in omnivorous than in herbivorous and carnivorous animals. To the facts which I have elsewhere† shown to be at variance with this opinion, it may be added that the oviparous Vertebrata, whatever may be the nature of their food, have larger blood-corpuscles than Mammalia, and that the size of the blood-corpuscles of many carnivorous birds exceeds that of the corpuscles of several of the omnivorous species.

Finally, the Two-toed Sloth, which is a purely vegetable feeder, has, excepting the Elephant, the largest blood-corpuscles hitherto observed in any mammiferous animal.

“ Mr. Hinds' resumed description of new Shells, from the cabinets of Sir E. Belcher and H. Cuming, Esq.”

#### RINGICULA, Deshayes.

RINGICULA GRANDINOSA. *Rin. testâ ovatâ, retusâ, lævigatâ, politâ; anfractibus rotundatis, ultimo magno, subquadrato, rotundato; columellâ supernè valdè callosâ, denticulatâ.* Axis  $1\frac{2}{3}$  lin.

*Hab.* Bais, island of Negros; in six fathoms, coarse sand: Cagan, island of Mindanao; in twenty-five fathoms, sandy mud: Cat-

\* Anatomie Microscopique, Paris 1838, Prem. Liv. p. 17. M. Mandl's observation refers to the blood-corpuscles of the African elephant; it was those of the Asiatic species that I examined.

† Appendix to Gerber's Anatomy, p. 4-5.

balonga, island of Samar; in ten to thirty fathoms, mud: Sorsogon, island of Luzon:—all in the Philippines.

Cab. Cuming.

These little shells resemble each other very closely, and it is only by close attention to minute characters and the proportion and form of the last whorl that they can be satisfactorily discriminated. The present species is perfectly smooth, and the last whorl is large, of a squarish form, and full and rounded. The upper portion of the aperture is strongly denticulated.

RINGICULA PROPINQUANS. *Rin. testá ovatá, retusá, striatá, nitidá; anfractibus rotundatis, ultimo magno valdè rotundato, concinnè striato.* Axis  $1\frac{1}{2}$  lin.

*Hab.* Sual, Philippines; in five to seven fathoms, sandy mud.

Cab. Cuming.

Here the last whorl is not so square in shape, but very full and rounded, and is neatly striated in a very regular manner, and the spire is short. Till the light is thrown properly on them, these striae are not very evident, but once discovered they will be found constant.

RINGICULA CARON. *Rin. testá ovatá, acuminatá, striatá, nitidá; anfractibus rotundatis, ultimo subtransverso, rotundato, distanter striato; spirá exsertá; aperturá subabbreviatá; labro corrugato.* Axis  $1\frac{2}{3}$  lin.

*Hab.* Straits of Malacca; in seventeen fathoms, mud.

Cab. Belcher.

The greatest breadth of the last whorl is probably in the transverse direction, and it is grooved with striae placed at regular distances from each other. The spire also is proportionately lengthened.

RINGICULA EXSERTA. *Rin. testá ovatá, acuminatá, lævigatá, politá; anfractibus rotundatis, lævigatis; spirá elongatá; labro ponè valdè incrassato.* Axis  $1\frac{2}{3}$  lin.

*Hab.* Camiguing; in forty fathoms, sandy mud: Sorsogon, island of Luzon; in six fathoms, coarse sand;—both in the Philippines.

Cab. Cuming.

Compared with *R. grandinosa*, the last whorl is small, but agrees in being quite smooth and round; the spire is elongated, as in *R. caron*, and the labrum is even rather more reflected than is usual.

RINGICULA AUSTRALIS. *Rin. testá ovatá, acuminatá, lævigatá, politá; anfractibus rotundatis, penultimo sensim minore; spirá elongatá, infrá suturam fasciá subalbida cinctá.* Axis  $1\frac{1}{2}$  lin.

*Hab.* Port Lincoln, Australia.

Cab. Metcalfe.

The only specimen before me has not attained its full adult age. In its characters it is rather intermediate; the spire is not so prominently produced, and the penultimate whorl is more than usually developed, so as to be more intermediate in size between the others. All these species are of one uniform glassy semiopaque colour, in some individuals being more glassy, in others more opaque.

## NEERA, Gray.

NEERA LYRATA. *N. testá suborbiculari, tenui, fragili, diaphand, liris transversis sulcatá, anticè rotundatá; rostro retusissimo; margine ventrali convexá.* Long.  $4\frac{1}{2}$ ; lat. 2; alt.  $3\frac{1}{3}$  lin.

*Hab.* Basay, island of Samar, Philippines; in from five to seven fathoms, sandy mud.

Cab. Cuming.

This species is to *Neera* exactly what *Mactra elegans* is among that group, the sculpture and outline of the shells being so very similar. This is of course comparatively a very miniature shell.

NEERA TENUIS. *N. testá ovali, fragili, diaphand, striis concentricis incrementis rugosá, anticè rotundatá, posticè retusè rostratá; margine ventrali anticè submarginatá.* Long.  $4\frac{1}{2}$ ; lat. 2; alt.  $3\frac{1}{3}$  lin.

*Hab.* Bais, island of Negros, Philippines; in seven fathoms, coral sand.

Cab. Cuming.

Less ventricose than is usual with the species of this group, posteriorly gradually attenuated into a short blunt beak, and on the ventral margin slightly emarginate.

NEERA COCHLEARIS. *N. testá majusculá, oblongá, albidd, striatá, prope umbones elevatiusculá, anticè rotundatá, posticè attenuatè nasutá, liris angustis, versus umbones respectantibus; margine ventrali valdè rotundato, posticè emarginato.* Long.  $11\frac{1}{2}$ ; alt. 8 lin.

*Hab.* Bais, island of Negros, Philippines; in seven fathoms, coral sand.

Cab. Cuming.

The description is drawn up from a single valve, but this is so large, and the characters so marked, as to render its future identity comparatively easy.

June 25.—William Horton Lloyd, Esq., in the Chair.

“Description of some new species of Birds brought by Mr. L. Fraser from Western Africa,” by H. E. Strickland, Esq., M.A.

Mr. Fraser has placed in my hands for examination and description a portion of the ornithological collection made by him during the Niger expedition, and I now present the names and characters of the new species. Mr. Fraser’s researches in Western Africa have made us acquainted with several new and interesting species of birds, and as he was only able to bring home very few, and in some cases only one specimen of each species, it would be very desirable that full descriptions, illustrated by figures, of these ornithological rarities should be made public, especially as it may be long before the pestilential shores of Western Africa are again explored by naturalists.

## HIRUNDINIDÆ, CYPSELINÆ.

*Cypselus parvus*, Licht., Verz. Doubl. p. 58.

A specimen of this bird was brought by Mr. Fraser from Acra; it is probably the smallest species of the genus, the total length being

only 6 inches, wing  $4\frac{3}{4}$  inches, medial rectrices  $1\frac{3}{4}$  inch, external  $3\frac{1}{4}$  inches. Plumage uniform mouse-colour, chin whitish.

*Acanthylis bicolor* (Gray); *Chatura bicolor*, Gray, Zool. Misc. p. 7.

A specimen of this elegant little species was obtained in May 1842 at Fernando Po, where it was very common.

#### TURDIDÆ, MALURINÆ.

PRINIA OLIVACEA, Strickl. *P. suprâ viridi-olivacea, remigibus fuscis, olivaceo limbatis, caudâ cuneatâ, rectricibus duobus intermediis fuscis, lateralibus albis, extûs fusco marginatis, extimo toto albo; mento corporeque toto inferno albido, pallidè flavo lavato. Rostrum pedesque fuscescentes.*

The aspect of this bird is that of a *Phylloscopus*, but the beak is longer, more depressed at the base, the culmen carinated, the wings short and rounded, the first quill subspurious, the fourth longest; tail much graduated, rectrices narrow; tarsi moderately long, acrotarsia scutate, toes slender, the outer longer than the inner. These characters induce me to class the bird provisionally in the genus *Prinia*.

Total length  $4\frac{1}{2}$  inches; beak to gape 6 lines, to front  $5\frac{1}{2}$  lines, breadth 2 lines, height  $1\frac{1}{2}$  line; wing  $1\frac{3}{4}$  inch; medial rectrices 1 inch 10 lines, external 1 inch 1 line; tarsus  $7\frac{1}{2}$  lines, middle toe  $5\frac{1}{2}$  lines, hind ditto 5 lines.

*Hab.* Fernando Po; June 1842.

PRINIA ICTERICA, Strickl. *P. suprâ flavo-olivacea, loris, superciliis, genis, margine alarum, tibiis, caudæque tectricibus infernis lætè flavis, mento, gula, pectore et abdomine albidis, pallidè isabellino lavatis, hypochondriis flavo-olivaceis, rostro nigro, pedibus rubris.*

This bird appears to belong to the same group as the last, but the beak is rather more depressed, the tail shorter and less cuneate, and the tarsi rather longer. In all other respects their structures correspond. They both have short rictal bristles and the nostrils are large, oblong, and situated in a large membranous depression of the beak. Possibly they may hereafter form a distinct genus of *Malurina*, distinguished chiefly by the depressed form of the beak.

Total length  $3\frac{3}{4}$  inches; beak to gape  $7\frac{1}{2}$  lines, to front 6 lines, breadth  $2\frac{1}{4}$  lines, height  $1\frac{1}{2}$  line; wing 1 inch 11 lines; medial rectrices  $1\frac{1}{4}$  inch, external 1 inch; tarsus  $9\frac{1}{2}$  lines, middle toe  $6\frac{1}{2}$  lines, hind ditto  $5\frac{1}{2}$  lines.

*Hab.* Fernando Po; June.

Mr. Fraser adds: "Irides light hazel; note *tweet, tweet, tweet*, hopping about the topmost branches of a small tree like a wren." In a sketch of this bird by Mr. Fraser the tail is erect, as in *Troglodytes*.

#### TURDINÆ.

COSSYPHA POENSIS, Strickl. *C. corpore suprâ fuliginoso-fusco, remigibus fuscis, omnibus (1â et 2â exceptis) basin versùs rufo-ferrugineis, sed scapis fuscis; rectricibus fuscis, tribus externis utrinque albo terminatis (qui color in rectricis extimâ pogonio*

*externo obliquè versus basin producitur*), corpore toto inferno ferrugineo, guld obscuriore. Rostrum atrum, pedes flavescens.

Seems to be a typical *Cossypha*, allied to *C. reclamator* (Vieill.), with which it agrees in all essential characters. The specimen above described is a male, and was procured at Clarence, Fernando Po.

Total length  $7\frac{3}{4}$  inches; beak to gape 10 lines, to front 7 lines, breadth 4 lines, height  $2\frac{1}{2}$  lines; wing 4 inches 2 lines; medial rectrices  $3\frac{1}{2}$  inches, external 3 inches 4 lines; tarsus 1 inch, middle toe and claw 1 inch, hind ditto 8 lines, lateral toes equal.

Mr. Fraser adds that this bird "feeds on the ground; when sitting quiet in a naked bush it is with difficulty to be discovered. Irides hazel."

#### PYCNONOTINÆ.

ANDROPADUS LATIROSTRIS, Strickl. *A. corpore suprâ olivaceo, remigibus fuscis, extûs viridi-olivascens, intûs albedo, marginatis, rectricibus fusco-brunneis, olivaceo limbatis; corpore subtûs olivascens, lateribus menti, alæ tectricibus infernis, et abdomine medio stramineis. Rostrum corneum, marginibus pallidis, pedes unguisque pallescentes. Rostrum depressum, tomiorum dentibus obliquis 6 vel 7 utrinque; illis maxillæ distinctis, mandibulæ subobsoletis.*

In this species the beak is considerably depressed and formed like that of a *Muscicapa*; the teeth of the upper mandible are distinct and regular, but disappear about the middle of the beak. The lower mandible is also furnished with five or six serrations, but very low and indistinct. The wing is much rounded, the fifth quill being longest and the rest graduated. The colour and texture of plumage are much like that of the East Indian *Pycnonotus flavirictus*, Strickl. (Ann. Nat. Hist., June 1844.)

Total length  $6\frac{3}{4}$  inches; beak to gape 11 lines, to front 7 lines; breadth 4 lines, height  $2\frac{1}{2}$  lines; wing  $3\frac{1}{4}$  inches; medial rectrices 3 inches; external  $2\frac{3}{4}$  inches; tarsus  $\frac{3}{4}$  inch, middle toe and claw 8 lines, hind ditto 6 lines.

The above description is taken from a specimen marked "female." In two other specimens in which the sex is not indicated the dimensions and plumage are the same, but the yellow streak on each side of the chin is wanting, and the lower mandible wants the serrations, and exhibits only a small subterminal notch. These are probably younger individuals.

*Hab.* Fernando Po; June.

ANDROPADUS GRACILIROSTRIS, Strickl. *A. corpore toto suprâ olivaceo, remigibus primariis fuscis, extûs olivascens, intûs pallidè ochraceo limbatis, corpore subtûs pallidè olivaceo-cinerascens, mento gulâque albidis, abdomine medio crissoque pallidè flavescens, alarum tectricibus infernis pallidè ochraceis. Rostrum pedesque corneo-fusci; rostrum longiusculum, turdinum, dentibus maxillæ duobus, mandibulæ nullis.*

This species differs from the former one in several points of structure; the beak is considerably narrower at the base and more slender,

the upper mandible has only two dentations, with a faint trace of a third, and the lower mandible exhibits only a slight subterminal emargination. The wings also differ, being more pointed; the first quill is subspurious, and the second, third and fourth nearly equal, the third longest. These two species, however, agree in the structure of the tail and feet, and in the texture and almost the colour of the plumage, the rump-feathers being dense, long and downy, as in the true *Pycnonoti*. The specimen before me is a male; it exhibits two or three slender nuchal bristles, like those of *Pycnonotus* and *Criniger*, which are not traceable in *A. latirostris*.

Total length 7 inches; beak to gape 10 lines, to front 7 lines, breadth 3 lines, height  $2\frac{1}{2}$  lines; wing  $3\frac{1}{4}$  inches; medial rectrices 3 inches 1 line, external 2 inches 11 lines; tarsus  $9\frac{1}{2}$  lines, middle toe and claw 9 lines, hind ditto 6 lines.

*Hab.* Fernando Po; June. "Irides white; a pretty songster."

#### MUSCICAPIDÆ, MUSCICAPINÆ.

MUSCICAPA FRASERI, Strickl. *M. capite, dorso alisque fuscis, ferrugineo tinctis, remigibus fuscis, primariis extus basin versus obscure ferrugineis, omnibus, 1<sup>a</sup> et 2<sup>a</sup> exceptis, pogoniis internis ad basin pallide rufis, uropygio, caudæ tetricibus, corporeque toto inferno rufo-ferrugineis, guld pallidiore, reatricibus fuscis, 6 intermediis strictissimè, lateralibus largè, rufo terminatis, externo ferè omninò rufo. Rostrum latum, nigrum, pedes pallidè brunnei.*

The rufous colouring of the plumage reminds us of *Tchitrea*, Less. (*Muscipeta*, Auct.), but the beak is much shorter and more triangular than in that genus. In its general structure and proportions this bird appears to approach the restricted genus *Muscicapa* more closely than any other group. The form of the beak is almost exactly that of the *Muscicapa latirostris*, Sw., of India, and the legs are much shorter than is usual in terrestrial birds. Notwithstanding these characters, Mr. Fraser's notes state that this bird "feeds on the ground; has the motions and plump appearance of a robin." He adds that the irides are hazel, and that it is a beautiful songster.

The beak is strong, depressed, very broad, the sides straight when viewed from above, and the base furnished with bristles of moderate length. The first quill is subspurious, 1 inch long; the second is half an inch shorter than the third; the fourth is the longest. Tarsi short, acrotarsia and paratarsia entire; outer toe slightly longer than the inner one, its first phalanx attached to the middle toe; claws curved, compressed, sharp; tail rounded. The male and female are alike, except that in the specimen before me of the female the narrow rufous tip of the medial rectrices is wanting, and the dimensions are rather less than in the male.

Total length  $7\frac{1}{4}$  inches; beak to gape 9 lines, to front 6 lines, height  $2\frac{1}{4}$  lines, breadth at gape 6 lines; wing 3 inches 10 lines; medial rectrices  $3\frac{1}{4}$  inches, external 3 inches 1 line; tarsus 10 lines, middle toe and claw 9 lines, hind ditto 7 lines.

*Hab.* Fernando Po.

I dedicate this species to Mr. Louis Fraser, naturalist to the Niger

expedition, who succeeded in bringing home many interesting additions to zoological science, notwithstanding the difficulties and dangers by which he was surrounded.

LANIIDÆ, LANIINÆ.

*TEPHRODORNIS OCREATUS*, Strickl. *T. capite suprâ genisque fusco-atris, dorso toto alisque obscurè fusco-plumbeis, remigibus rectricibusque fusco-atris, extûs plumbeo limbatis, corpore toto inferno albo, gutturis pectorisque plumis cinereo strictè marginatis, alarum tectricibus infernis cinereis albo marginatis. Rostrum pedesque atrî, acrotarsiis integris.*

This bird approaches sufficiently near to the Indian genus *Tephrodornis* to be classed with it, the only important structural differences being that the acrotarsia are entire and that the tail is slightly rounded. The beak resembles that of *T. Indica* (Gray), but is a trifle shorter; the nostrils are concealed by incumbent bristly feathers; the fourth, fifth and sixth quills are nearly equal, the first three graduated, and the outer toe longer than the inner.

Total length  $6\frac{3}{4}$  inches; beak to gape 11 lines, to front 7 lines, breadth 3 lines, height  $2\frac{1}{2}$  lines; wing 3 inches 7 lines; medial rectrices 3 inches, external 2 inches 8 lines; tarsus 10 lines, middle toe 9 lines, hind ditto 7 lines.

*Hub.* Fernando Po; June. "Irides hazel, legs blue."

Mr. Gould laid upon the table a number of Skins of Animals and Birds, being part of a large collection which Mr. Gilbert had lately forwarded to him from Australia. Mr. Gould characterized the following species:—

MAMMALIA.

*MACROPUS GRACILIS.* *M. infrâ incanescens et saturatè fuscus; colli lateribus rufescenti-fusco lavatis; genis, mento et gula fulvescente-albis, vellere molli, ad basin cinereo, exinde fusco, dein albo, apice nigro; pilis longis nigris crebrè interspersis.*

	feet	in.
Length from tip of nose to the tip of the tail . . . . .	2	6
———— of tail . . . . .	1	1
———— of tarsi and toes, including nails . . . . .	0	5
———— of arm and hand, including nails . . . . .	0	$3\frac{1}{4}$
———— of face from tip of nose to base of ear. . . . .	0	$3\frac{1}{2}$
———— of ear . . . . .	0	$2\frac{1}{4}$

Face and all the upper surface of the body grizzled grey and dark brown, the grizzled appearance produced by each hair being greyish white near its tip; sides of the neck and the outer side of the limbs washed with reddish brown; margin of the anterior edge and the base of the posterior edge of the ear buffy white; line from the angle of the mouth dark brown; line along the side of the face, chin and throat buffy white; under surface buffy grey; tail clothed with short grizzled hairs, similar to the upper surface of the body, and with a line of black on the upper side at the apex for about one-third of its length; the fur, which is somewhat soft to the touch, is grey at the base, then brown, to which succeeds white, the points of the



hairs being black ; there are also numerous long black hairs dispersed over the surface of the body ; feet grizzled grey and rufous.

This is a very elegantly formed little animal, and is intermediate in size between *Macropus lunatus* and *Macropus frenatus*.

**HYPSIPRYMNUS PLATYOPS.** *H. facie magnopere latâ ; hâc, corporisque lateribus, fuscescente-cinereis ; dorso rufescenti-fusco ; facie, partibusque superioribus pilis longis, et flavido-albis inter vellus crebrè adpersis ; corpore inferiore fulvescente-cinereo.*

	feet	in.
Length from tip of the nose to the extremity of the tail . .	1	7
——— of tail . . . . .	0	7
——— of tarsi and toes, including nails . . . . .	0	2 $\frac{5}{8}$
——— of arm and hand, including the nails . . . . .	0	2 $\frac{1}{2}$
——— of face from tip of nose to base of ear . . . . .	0	3
——— of ear . . . . .	0	0 $\frac{7}{8}$

Face extremely broad, and, with the sides of the body, brownish grey ; back reddish brown ; the whole of the face and upper surface beset with numerous long yellowish white hairs, offering a strong contrast to the darker colouring of the fur ; all the under surface and limbs buffy grey ; tail brown above, paler beneath.

'Mor-da,' aborigines of Western Australia.

The above is the description of a female received from Swan River.

**PERAMELES ARENARIA.** *P. vellere rigido et cinerascete-fusco, pilis longis nigris intermixto, his fasciam lateralem vix distinctam, notamque instar ephippii ad dorsum medium efficientibus ; auribus ferrugineis ad basin, in medio saturatè fuscis, ad apicem cinerascete-fuscis ; corpore inferiore fulvescente-albo.*

	inches.
Length from tip of nose to extremity of tail . . . .	14 $\frac{1}{2}$
——— of tail . . . . .	4 $\frac{1}{4}$
——— from tip of nose to base of ear . . . . .	3 $\frac{1}{4}$
——— of hind-leg, tarsi and toes . . . . .	2 $\frac{1}{4}$
——— of fore-leg . . . . .	2 $\frac{1}{4}$
——— of ear . . . . .	1 $\frac{5}{8}$

The fur is harsh to the touch and of a greyish brown hue, interspersed with numerous long black hairs, which form a broad indistinct band down the flanks, immediately before the hind-legs, and a kind of saddle-like mark on the centre of the back ; ears rather lengthened and of three colours—rusty red near the base, then dark brown, and the apex of a light greyish brown ; sides of the muzzle and all the under surface buffy white ; line along the upper surface of the tail dark brown, the remainder buffy white ; outside of the fore-legs dark brownish grey ; feet and claws buffy white.

**HAPALOTIS LONGICAUDATA.** *H. supernè pallidè arenacea, pilis longis, nigris, ad caput et dorsum cum vellere intermixtis ; rostri lateribus, et abdomine albis ; caudâ pilis brevibus nigris ad basin indutâ, apicem versùs nigris et elongatis ; apice extremo albo vellere molli, adpresso et juxta cutem plumbeo.*

	inches.
Length from tip of nose to extremity of tail . . . .	16
——— of tail . . . . .	9
——— from tip of nose to base of ear . . . . .	1 $\frac{3}{4}$
——— of hind-leg, tarsi and toes . . . . .	2
——— of fore-leg . . . . .	1 $\frac{3}{8}$
——— of ear . . . . .	0 $\frac{7}{8}$

All the upper surface and the outside of the limbs pale sandy, interspersed on the head and over the back with numerous fine black hairs, which, becoming longer on the lower part of the back and rump, give that part a dark or brown hue; ears naked and of a dark brown; sides of the muzzle, all the under surface and the inner surface of the limbs white; tail clothed with short dark brown hairs at the base, with lengthened black hairs tipped with white on the apical half of its length, the extreme tip being white; tarsi white; whiskers very long, fine, and black; the fur is close, very soft, and of a dark slaty grey at the base, both on the upper and under surface.

This species is considerably smaller than *Hapalotis albipes*, but has a much longer tail and longer hind-legs in proportion to the size of the body.

'Kor-tung' and 'Goota-was,' aborigines of Moore's River, Western Australia.

PHASCOGALE CALURUS. *Phasc. cinerea; subtus pedibusque albis, indistinctissimè flavo-tinctis; caudâ corpore longiore, dimidio basali pilis brevibus, rufis, apicali pilis longis nigris obsitâ; auribus magnis ad basin pilis flavescentibus obsitis.*

	inch.	lin.
Length from tip of nose to extremity of tail ..	10	6
——— of tail . . . . .	5	6
——— from tip of nose to base of ear. . . . .	1	3
——— of tarsi and toes . . . . .	0	11
——— of ear. . . . .	0	7 $\frac{1}{2}$

This beautiful species was procured in the interior of Western Australia.

It is nearly allied to *P. penicillata*, but is of smaller size and has the tail less bushy; the portion covered with short hair is extended from the base nearly to the middle of the tail, and is remarkable for its brilliant rusty-red colour; on the apical half of the tail the hairs are long, being on an average about half an inch in length; all the under side is black, very nearly to the root. The fur is soft and moderately long, and its general colour is ashy grey externally, but grey next the skin; the under parts of the body are white, tinted with cream-colour, and this last-mentioned tint is very distinct on the sides of the body; the eye is encircled by a narrow black line, and there is a blackish patch in front of the eye. The ears are large and very sparingly clothed for the most part with very minute dusky hairs, but at the base, both externally and internally, are some longish yellow hairs.

PHASCOGALE CRASSICAUDATA. *Phasc. suprâ cinerea flavo-tincta;*

*corpore subtùs, pedibusque albis; auribus mediocribus, externè maculá nigrá ornatis; caudá brevi crassá.*

	inch.	lin.
Length from tip of nose to extremity of tail ..	5	7
——— of tail .....	2	1
——— of ear .....	0	5½
——— tarsi and toes .....	0	7

*Hab.* Western Australia.

This species is about the size of the common mouse, and is not unlike the *Mus sylvaticus* in its colouring; above grey with a wash of yellow, and on the sides of the body distinctly tinted with yellow; under parts and feet pure white; tail much swollen, especially in the middle, and clothed throughout with very minute pale hairs; ears clothed with pale hairs, but with a largish black spot externally; eyes encircled with black hairs; fur moderately long and soft.

### AVES.

*IERACIDEA OCCIDENTALIS.* *Ier. vertice et corpore superiore ferrugineo-fuscis; singulis plumis strigá centrali nigrá angustè notatis; caudá fusco multi-fasciatá; corpore subtùs albo plumis lineá fuscá angustá notatis.*

Crown of the head, back and scapularies rusty brown, with a narrow stripe of black down the centre; rump deep rusty brown, crossed by broad bands of dark brown, the tip of each feather buffy white; wings very dark brown; the inner webs of the primaries with a series of large spots, assuming the form of bars, of a deep rusty brown near the shaft and fading into buffy white on the margin; wing-coverts tipped with rusty red; spurious wing with a row of rusty red spots on either side of the shaft; tail dark brown, crossed by numerous broad irregular bars of rusty red, and tipped with pale buff; ear-coverts and a stripe running down from the angle of the lower mandible dark brown; chin, all the under surface, and a broad band which nearly encircles the neck, white, with a fine line of dark brown down the centre; thighs deep rust-red, each feather with a line of black down the centre and tipped with buffy white; cere very light greenish flesh-colour; irides wood-brown; space round the eye pale yellow, becoming brighter near the eye; base of the upper mandible, the under mandible and gape, very light horn-colour; tip of the upper mandible black.

Total length, 16 inches; bill, 1¼; wing, 12½; tail, 7¾; tarsi, 2½.

*Hab.* Western Australia.

*ÆGOTHELES LEUCOGASTER.* *Æ. quoad colorem Æ. Nov. Hollandiæ consimilis, at grandior, rostro longiore, et abdomine albo.*

Head black; crown, lunar-shaped mark at the back of the head, and a collar surrounding the neck, black, freckled with grey in the centre of each feather; back freckled black and white; wings brown, crossed by numerous bands of lighter brown, freckled with dark brown; primaries margined externally with buff, interrupted with blotchings of dark brown; tail dark brown, crossed by numerous broad irregular bands of reddish buff, freckled with dark brown; ear-coverts straw-

white; chin, abdomen and under tail-coverts white; breast, sides of the neck, and a narrow collar surrounding the back of the neck, white, crossed by numerous narrow freckled bars of black; irides dark brown; upper mandible dark olive-brown, lower white, with a black tip; legs pale yellow, claws black.

Total length,  $9\frac{1}{2}$  inches; bill, 1; wing,  $5\frac{3}{4}$ ; tail, 5; tarsi, 1.

*Hab.* Port Essington.

*MALURUS PULCHERRIMUS.* *Mal. Mas: vertice, et fasciâ dorsali splendidè violaceo-cæruleis; orbitis et plumis auricularibus ex æruginè cæruleis; gulâ indico-cæruleâ, nigro subtùs indistinctè marginatâ; plumis scapularibus castaneis; loris, nuchâ, et dorso imò holoserico-nigris. Fœm.: fusca, subtùs pallidior, orbitis rubidè fuscis.*

Crown of the head and a broad band across the centre of the back rich glossy violet-blue; space surrounding the eye and the ear-coverts verditer-blue; throat intense indigo-blue, bounded below by an indistinct band of black; lores, collar surrounding the back of the neck, and the lower part of the back, deep velvety black; scapularies chestnut; wings brown; tail dull greenish blue, indistinctly barred with a darker tint and slightly tipped with white; abdomen and under tail-coverts white; bill and feet black; irides dark brown.

Female dull brown, paler beneath; tail-feathers like those of the male, but less bright; bill and space round the eye reddish brown.

*Remarks.*—Very similar in its markings and general contour to *M. Lamberti*; it may however be always distinguished from that species by its larger size and by the deep indigo-blue colour of the throat and chest, which parts are black in *M. Lamberti*.

Total length,  $5\frac{1}{4}$  inches; bill,  $\frac{9}{16}$ ; wing, 2; tail,  $3\frac{1}{4}$ ; tarsi,  $\frac{1}{16}$ .

*Hab.* Western Australia.

*PACHYCEPHALA GILBERTII.* *Pach. Mas: colore saturatè olivaceo-fusco; capite plumbeo; loris nigris; gulâ ferrugineâ; humeris subtùs, abdomine medio, crissoque arenaceis. Fœm. differt, loris non nigris, neque gulâ ferrugineâ.*

The plumage dark greyish olive-brown; the head dark slate-grey, and the breast of a lighter grey; the lores black; throat rust-red; under surface of the shoulder, centre of the abdomen and under tail-coverts sandy buff; irides light brown; bill and feet black. The female is similar in colour, but is destitute of the black on the lores and the red on the throat.

Total length,  $6\frac{3}{4}$  inches; bill,  $\frac{1}{16}$ ; wing,  $3\frac{7}{8}$ ; tail,  $3\frac{3}{8}$ ; tarsi, 1.

*Hab.* Western Australia.

July 9th.—William Horton Lloyd, Esq., in the Chair.

“Descriptions of a number of new species of Shells belonging to the genus *Cytherea*,” by Sylvanus Hanley, Esq.

*CYTHEREA VARIANS.* *C. testâ ovato-cordatâ, inæquilaterali, subventricosâ, tenuiusculâ, albâ, maculis et lineis angulatim flexuosis castaneis variegatâ, concentricè (et anticè præsertim) sulcato-striatâ; lunulâ magnâ, cordatâ, lineâ impressâ circumscriptâ, albâ, maculâ*

*castaneâ aut livido-purpurascente basi ornatâ; pube castaneo venulâtâ; superficie internâ omninò albidd; margine integro; cardine ut in C. læta. Long. 1; lat. 1.45 poll.*

Index Test. Sup. t. 15. f. 33.

*Hab.* Brazil.

Easily distinguished from *læta* and *obliquata* by its lunule, and from *pellucida* (to which in colouring and general contour it approximates) by its close and irregular groove-like striæ.

CYTHEREA OBLIQUATA. *C. testâ ovato-cordatâ (interdum oblongo-cordatâ), tumiddâ aut ventricosâ, solidiusculâ, sublævigatâ, albidd, lineis angularibus minutissimis brunneis aspersâ; margine ligamentali convexiusculo, subdeclivi; ventrali subarcuato; lunulâ magnâ, indistinctâ, colorum experte; natibus valdè obliquis, candidis; ligamento angusto; extremitate posticâ obtusâ; superficie internâ albâ aut albido-roseâ; margine integro. Long. 1.75; lat. 2.50 poll.*

Index Test. Sup. t. 15. f. 24.

*Hab.* —? Mus. Cuming, Hanley, &c.

A species which for a long time has been confounded with *læta*, whose dentition, lunule and general shape it possesses. It is however a broader shell, with the beaks still more oblique, and its surface invariably speckled with minute scattered linear zigzags, which are more closely congregated near the swollen umbones.

CYTHEREA PLEBEIA. *C. testâ suborbiculari, subquadratâ, valdè inæquilaterali, solidâ, compressiusculâ, squalidè albidâ, fulvo variegatâ (intus lividd), concentricè et confertissimè sulcatâ; margine ligamentali convexo et subdeclivi; postico dorsali paululùm subretuso et valdè declivi; ventrali arcuato; umbonibus haud complanatis et minimè striis divaricatis instructis; lunulâ lanceolatâ, albâ; margine interno subcrenulato. Long. 1; lat. 1.20 poll.*

Index Test. Sup. t. 15. f. 37.

*Hab.* Catbalonga, Philippines. Mus. Cuming, Hanley.

This species is allied to the type of its subgenus, the *Circe scripta*, but the compressed umbones of that shell at once distinguish it. Minute tawny zigzags adorn the whitish ground of the anterior surface, whilst the fulvous hue predominates posteriorly.

CYTHEREA PHILIPPINARUM. *C. testâ cordatâ, inæquilaterali, ventricosâ, crassiusculâ, pallidè lividd, radiis et lineis angulatim flexuosis saturatioribus variegatâ, concentricè costellatâ; costellis convexis, confertis; interstitiis lævigatis; lunulâ brevi, cordiformi, albâ; rimâ livido purpurascente; margine ventrali integro, arcuato; superficie internâ albidd, maculâ lividd sub umbonibus notatâ. Long. 0.80; lat. 1 poll.*

Index Test. Sup. t. 15. f. 36.

*Hab.* Philippines. Mus. Cuming, Hanley.

Very distinctly characterized by its crowded narrow ribs. The dentition is that of its subgenus *Chione*, and the short white lunule, equally with the narrow ligament, is bordered with livid purple.

CYTHEREA DIEMENENSIS. *C. testâ oblongo-cordatâ, convexâ, nitidiusculâ, concentricè et obsoletè sulcatâ, carneo-fulvâ; radiis angustis*

*lunulæ lanceolatæ, colore tinctis saturatiore; pube albâ, strigis flexuosis litteratâ; superficie internâ albidâ, radio fusco-purpureo obliquo, sub umbonibus ornatâ; margine integro.* Long. 0·80; lat. 1·20 poll.

*Hab.* Van Diemen's Land. Mus. Metcalfe.

Easily to be distinguished from those allied to it in form by its internal ray. The hinge is that of the section *Chione*.

CYTHEREA COR. *C. testâ cordato-trigona, intus extusque albâ, convexiusculâ, undique concentricè striatâ; striis exilibus, regularibus, confertissimis; latere postico majore, subcuneiformi; margine ligamentali valdè declivi, convexiusculo; ventrali subarcuato; natibus acutis; lunulâ oblongâ, impressâ; margine interno integro.* Long. 0·80; lat. 1 poll.

Index Test. Sup. t. 15. f. 7.

*Hab.* Africa. Mus. Metcalfe.

Not unlike the *Venus variabilis* of Sowerby in shape and general appearance. The epidermis is of that white velvety texture which we meet with in *argentea*.

CYTHEREA HINDSII. *C. testâ trigonâ, ventricosâ, solidiusculâ, lævigatâ, nitidâ, subæquilaterali, albidâ, brunneo nebulosâ, utrinque obtusâ; latere antico paululùm majore; natibus incurvatis, pallidis; lunulâ magnâ, subinconspicuâ, omninò pallidâ; pube fusco strigatâ; superficie internâ albidâ; margine integro.* Long. 1; lat. 1 poll.

Index Test. Sup. t. 15. f. 35.

*Hab.* Guayaquil. Mus. Cuming, Hanley.

This and the succeeding species belong to the subgenus *Trigona*, and are easily distinguished from the *Mactroides* of Born and Chemnitz by the absence of a purple stain upon the umbones.

Sept. 10.—William Horton Lloyd, Esq., in the Chair.

“Descriptions of six new species of *Voluta*,” by G. B. Sowerby, Esq.:—

VOLUTA MAMMILLA, Gray. *Vol. testâ ovato-oblongâ, tenui, lutescente, apice mammillari, obtusissimo, subspiralî; anfractibus duobus, ultimo magno, ovali, maculis lineisque castaneis picto; aperturâ magnâ; columellâ plicis tribus.*

Shell ovate-oblong, thin, brownish-yellow, with a mammillary, subspiral, very obtuse apex; volutions two, the last of which is large, oval, marked with chestnut-coloured spots and zigzag lines; aperture large; columella with three folds.

From New Holland; a single specimen, which appears to be only a very young shell, is in the British Museum. This is a very remarkable species, forming the link that unites *Cymba* with *Melo*, the apex of this species being subspiral, while in *Cymba* the apex is amorphous.

VOLUTA PIPERITA. *Vol. testâ obovatâ, ventricosiusculâ, crassiusculâ, pallescente, quinquefasciatâ, fasciis posticâ medianâ et antica brunneo-punctulatis, strigisque fuscis irregularibus ornatâ;*

*fasciis duabus intermediis pallidioribus, strigis nonnullis lividis, cum strigis fuscis, fasciarum alternarum continuis; anfractibus quinque, tribus primis papillam efformantibus, papilla lævi, posticè subgranosa; ultimo maximo, ovali; apertura elongatâ, latiori, intus aurantiacâ; columellâ plicis 4, validis, labioque columellari aurantiacis.*

Shell obovate, rather ventricose and thickish; of a pale colour, with five bands, the posterior, middle and anterior of which are dotted with brown, and ornamented with irregular fuscous streaks; the two intermediate bands are paler, with livid streaks, which are continuous with the brown streaks of the alternating bands; volutions five, of which the first three form the papillary apex, which is smooth, and slightly granose posteriorly; the last volution very large, oval; aperture elongated, rather wide, orange-coloured within; columella with four distinct folds, orange-coloured as well as the columellar lip.

A single specimen only is known, which is in Mr. Norris's collection.

*VOLUTA NORRISII. Vol. testâ ovatâ, suboblongâ, ventricosâ, coronatâ, lævi, cinereo-fulvâ, maculis parvis niveis aliisque fuscis adspersâ, fasciis duabus transversis fuscis, interruptis, hic illic lineis interruptis, longitudinalibus notatis; spirâ brevi, apice papillari, granoso; anfractibus sex, ultimis duobus spinis brevibus acutis coronatis; apertura magnâ, oblongâ, intus fuscâ; columellâ quadruplicatâ, plicis duabus anticis validioribus.*

Shell ovate, rather oblong, ventricose, coronated, greyish brown, sprinkled with small snow-white and brown specks, with two transverse brown interrupted bands, here and there marked with interrupted longitudinal lines; spire short, with a papillary granose apex; volutions six, the last two crowned with short sharp spines; aperture large, oblong, brown within; columella with four folds, of which the two anterior are prominent.

Found on the reefs at low water, on Dupuch's Island, by J. C. Dring, Esq., R.N. In Mr. Cuming's collection. Wagner has figured this species for *V. nivosa*.

*VOLUTA MEGASPIRA. Vol. testâ fusiformi, turratâ, tenuiusculâ, lævi, rufescente-carneolatâ, strigis maculisque castaneis notatâ; spirâ anfractibus sex, sublongatis, medio ventricosiusculis, primis duobus apicem papillarem efformantibus, 3<sup>ti</sup>, 4<sup>to</sup>, 5<sup>to</sup> et 6<sup>to</sup> obtusè longitudinaliter costatis, ultimo magno, oblongo, anticè attenuatè; apertura oblongâ, labio externo subreflexo; columellâ quinqueplicatâ, plicis posticis obtusis, parvis.*

Shell fusiform, turrated, rather thin, smooth, of a reddish flesh-colour, marked with chestnut streaks and blotches; volutions of the spire six, rather elongated and ventricose in the middle, the first two forming the papillary apex, the 3rd, 4th, 5th and 6th with obtuse longitudinal ribs, the last large, oblong, attenuated anteriorly; aperture oblong, outer lip slightly reflected; columella with five folds, the posterior of which are small and obtuse.

I have only seen a single specimen, which is in Mr. Cuming's ex-

traordinary collection; it is probably the same as Kiener's *V. lyriformis*, but it is not the same as Broderip's, which is identical with Swainson's *Mitra lyriformis*. Its papillary apex closely resembles that of *V. fulminata*.

**VOLUTA GUILDINGII.** *Vol. testâ oblongâ, crassâ, fulvescente, lineolis saturatoribus aliisque albis pictâ; spirâ acuminatâ, apice obtuso; anfractibus 5 ad 6, subventricosis, longitudinaliter costatis, interstitiis costarum transversim striatis, ultimo magno, lævigatiusculo; aperturâ mediocri, labio externo extus incrassato, albicante, intus dente parvo instructo; columellâ plicis quinque ad sex parvis, anticis duabus validioribus.*

Shell oblong, thick, fulvous, marked with little white lines and others of a darker colour; spire acuminate, with an obtuse apex; volutions five to six, rather ventricose, longitudinally ribbed, interstices of the ribs with transverse striæ, the last volution large, rather smooth; aperture middle-sized, outer lip externally thickened, whitish, furnished with a small tooth internally; columella with five or six small folds, of which the two anterior are more prominent.

This is the smallest known species of *Volute*; it was discovered at St. Vincent's by the late Rev. Lansdown Guilding. In Mr. Cumming's and Mr. Metcalfe's collections.

**VOLUTA CYLLENIFORMIS.** *Vol. testâ parvâ, ovatâ, crassâ, læviusculâ, albicante, maculis parvis flavicantibus sparsim ornata; spirâ subconicâ, anfractibus sex, posticè coarctatis, ad suturam granosis, anticè longitudinaliter costatis, ultimo magno, anticè transversim striato; canali parvo, reflexo; aperturâ oblongâ, labio externo extus incrassato, margine interno intus dente parvo instructo; labio columellari anticè ruguloso, dentibus tribus parvulis munito.*

Shell small, ovate, thick, rather smooth, whitish, sprinkled with small yellowish specks; spire somewhat conical, with six volutions, which are contracted posteriorly, granose at the sutures and longitudinally ribbed anteriorly; the last volution is large and anteriorly transversely striated; canal small, slightly reflected; aperture oblong, outer lip externally thickened, its internal edge furnished with a small tooth; columellar lip rugulose anteriorly, furnished with three small teeth.

The only specimen I have seen of this curious little shell is in the collection of W. Metcalfe, Esq. In general appearance it nearly resembles a *Cyllene*.

#### GEOLOGICAL SOCIETY.

Dec. 4, 1844.—A paper was read, entitled, "Remarks on the Geology of British Guiana." By the Chevalier Robert H. Schomburgk.

The geology of the district of British Guiana is chiefly confined to primitive rocks. At the mouth of the Orinoco is an extensive delta consisting of blue clay, which, when pierced, gives a supply of water, and Artesian wells have been sunk here in many places with success. Below the clay appear the remains of an ancient forest. The allu-